Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1.   (Withdrawn) A method of processing high dimensionality data, comprising the steps of:

a) computing a matrix inverse and eigen functions according to a given number of limited observations of said data;

b) determining the dimensionality of said data according to said observations to provide an independent amount of discrimination necessary to process said data.

2.   (Withdrawn) The method according to claim 1 wherein said data is speech frames.

3.   (Withdrawn) The method and according to claim 2 wherein said speech is converted into speech feature vectors which are compared using a linear discriminant function, wherein the dimensionality of said feature vectors is between 1000 - 2000.

4.   (Withdrawn) The method according to claim 3 wherein the step of computing includes generating an eigenvector that simultaneously diagonalyzes the covariances in between speaker and between channel spaces.

5.   (Withdrawn) The method according to claim 4 wherein the step of determining includes employing linear discriminant analysis on said data.

6.   (Canceled)

7.   (Canceled)

8.   (Currently Amended) A method of speaker verification according to claim ~~7~~18, wherein the predetermined number of ~~vocabulary~~ words comprise five words, namely, "four", "six", "seven", "nine", and "ti".

9.   (Currently Amended) A method of speaker verification according to claim ~~7~~18, wherein ~~the~~ enrollment and test feature vectors are created by concatenating ~~the~~ state-mean vectors of the first and second sets of the adapted HMM word models.

10.   (Canceled)

11.   (Currently Amended) The method according to claim ~~6~~9 including the further step of:

comparing said enrollment feature vector obtained from said enrollment with the test feature vector obtained from a speech test to determine the identity of a test speaker voice.

12.   (Canceled)

Appln. No.: 09/660,635
Amendment Dated April 28, 2005
Reply to Office Action of March 3, 2005

ITDE-PACD116US

13.   (Cancel)

14.   (Cancel)

15.   (Currently Amended) The method according to claim 6̶ 9 wherein said enrollment feature vector has a total dimensionality of 1568.

16.   (Currently Amended) The method according to claim 6̶ 9 further including the step of:

forming said enrollment feature vector for each known speaker using the difference in vectors between a first and second speaker channel.

17.   (Currently Amended) The method according to claim 1̶6̶ 18 wherein each speaker vector approximates speaker speech with white noise channel differences.

18.   (Currently Amended) A method of speaker verification by matching a claimed speaker with a known speaker, including the steps of processing spoken input enrollment speech data and test speech data, generating respective match scores therefrom, and determining whether the test speech data corresponds with the enrollment speech data, the method comprising:

forming enrollment speech data as a first plurality of pair-phrases using a set of words, the set of words consisting of a predetermined number of words, wherein the set of words are words between one to nine and at least one bridging word "ti";

forming test speech data as a second plurality of pair-phrases from the same set of words, the second plurality of pair-phrases different from the first plurality of pair-phrases;

converting, by a Baum-Welch algorithm, the first plurality of pair-phrases into a first set of adapted HMM word models;

converting, by the Baum-W̶e̶l̶s̶h̶ Welch algorithm, the second plurality of pair-phrases into a second set of adapted HMM word models;

ordering the first set of adapted HMM word models into a first sequence;

ordering the second set of adapted HMM word models into a second sequence, the second sequence and the first sequence having the same order and the same predetermined number of words; and

comparing the first and second sets of adapted HMM word models using a weighted Euclidean distance.